

SEQUENCE LISTING

<110> Varnum, Brian
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Wong, Lu Min
Qian, Xueming

<120> Therapeutic Human Anti-IL-1R Monoclonal Antibody

<130> 01,1554

<160> 79

<170> PatentIn version 3.0

<210> 1

<211> 990

<212> DNA

<213> Homo Sapiens

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<210> 2
 <211> 330
 <212> PRT
 <213> Homo sapiens

<400> 2

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Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	35	40	45	
Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	50	55	60	
Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	65	70	75	80
Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	85	90	95	
Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	100	105	110	
Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	115	120	125	
Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	130	135	140	
Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	145	150	155	160
Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	165	170	175	
Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	180	185	190	
His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	195	200	205	
Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	210	215	220	
Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	225	230	235	240
Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	245	250	255	
Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	260	265	270	

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
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Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
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Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

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 20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
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 <212> DNA
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 <211> 326
 <212> PRT
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<400> 6

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Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60
Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr
65 70 75 80
Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95
Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro
100 105 110
Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
115 120 125
Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
130 135 140
Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly
145 150 155 160
Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn
165 170 175
Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp
180 185 190
Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro
195 200 205
Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu
210 215 220
Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
225 230 235 240
Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
245 250 255
Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
260 265 270
Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
275 280 285
Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
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Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
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Ser Leu Ser Pro Gly Lys
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<210> 8
 <211> 327
 <212> PRT
 <213> Homo sapiens

<400> 8
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 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
 65 70 75 80
 Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95
 Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro
 100 105 110
 Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
 115 120 125
 Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
 130 135 140
 Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
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 Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
 165 170 175
 Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
 180 185 190
 Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
 195 200 205
 Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
 210 215 220
 Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
 225 230 235 240
 Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
 245 250 255
 Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
 260 265 270
 Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
 275 280 285
 Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
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 Leu Ser Leu Ser Leu Gly Lys
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<210> 9
 <211> 417
 <212> DNA

<213> Homo Sapiens

<400> 9

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cactccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg      300
caaatgaaca gcccgagagc cgaggacacg gctgtgtatt actgtgcgag agcacggtct      360
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<210> 10

<211> 139

<212> PRT

<213> Homo sapiens

<400> 10

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20          25          30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35          40          45
Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50          55          60
Glu Trp Val Ala Gly Ile Trp Asn Asp Gly Ile Asn Lys Tyr His Ala
65          70          75          80
His Ser Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85          90          95
Thr Leu Tyr Leu Gln Met Asn Ser Pro Arg Ala Glu Asp Thr Ala Val
100         105         110
Tyr Tyr Cys Ala Arg Ala Arg Ser Phe Asp Trp Leu Leu Phe Glu Phe
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Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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<210> 11

<211> 384

<212> DNA

<213> Homo Sapiens

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<210> 12
<211> 128
<212> PRT
<213> Homo sapiens

<400> 12
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Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser
35 40 45
Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
50 55 60
Arg Leu Leu Ile Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala
65 70 75 80
Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95
Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser
100 105 110
Asn Trp Pro Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115 120 125

<210> 13
<211> 417
<212> DNA
<213> Homo Sapiens

<400> 13
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caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggacgatat 360
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<210> 14
<211> 139
<212> PRT
<213> Homo sapiens

<400> 14

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20 25 30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Phe Thr Phe
35 40 45
Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60
Glu Trp Val Ala Ala Ile Trp Asn Asp Gly Glu Asn Lys His His Ala
65 70 75 80
Gly Ser Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110
Tyr Tyr Cys Ala Arg Gly Arg Tyr Phe Asp Trp Leu Leu Phe Glu Tyr
115 120 125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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<210> 15
<211> 411
<212> DNA
<213> Homo Sapiens

<400> 15

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tgtaagggtt ctggatacag cttttccttc cactggatcg cctgggtgcg ccagatgccc 180

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<210> 16
 <211> 137
 <212> PRT
 <213> Homo sapiens

<400> 16

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 20 25 30
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 35 40 45
 Ser Phe His Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Met Gly Ile Ile His Pro Gly Ala Ser Asp Thr Arg Tyr Ser
 65 70 75 80
 Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Asn Ser Asn Ser
 85 90 95
 Ala Thr Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
 100 105 110
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 Gln Gly Thr Leu Val Thr Val Ser Ser
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<210> 17
 <211> 378
 <212> DNA
 <213> Homo Sapiens

<400> 17

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 cagtctccaa agtcctcat caagtatgct tccagtcct tctcaggggt cccctcgagg 240

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ttcagtggca gtggatctgg gacagatttc accctcacca tcaatagcct ggaagctgaa      300
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accaaggtgg agatcaaaa                                         378

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<210> 18
<211> 126
<212> PRT
<213> Homo sapiens

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<400> 18

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          20          25          30
Thr Pro Lys Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile
          35          40          45
Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys
          50          55          60
Leu Leu Ile Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg
65          70          75          80
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser
          85          90          95
Leu Glu Ala Glu Asp Ala Ala Ala Tyr Tyr Cys His Gln Ser Ser Ser
          100          105          110
Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<210> 19
<211> 1407
<212> DNA
<213> Homo Sapiens

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<400> 19

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tgtgcagcgt ctggattcac cttcagcaac tatggcatgc actgggtccg ccaggctcca      180
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cactccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg      300
caaatgaaca gcccgagagc cgaggacacg gctgtgtatt actgtgcgag agcacggctc      360
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tccaccaagg gcccatcggg cttccccctg gcacctctct ccaagagcac ctctgggggc 480
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tcagtcttcc tcttcccccc aaaaccaag gacacctca tgatctcccg gacctctgag 840
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caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag 1380
aagagcctct ccctgtctcc gggtaaa 1407

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<210> 20
<211> 469
<212> PRT
<213> Homo sapiens

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<400> 20

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Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
1           5           10          15
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20          25          30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35          40          45
Ser Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50          55          60
Glu Trp Val Ala Gly Ile Trp Asn Asp Gly Ile Asn Lys Tyr His Ala
65          70          75          80

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His	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	85	90	95
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Pro	Arg	Ala	Glu	Asp	Thr	Ala	Val	100	105	110
Tyr	Tyr	Cys	Ala	Arg	Ala	Arg	Ser	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Phe	115	120	125
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	130	135	140
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	145	150	155
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	165	170	175
Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	180	185	190
Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	195	200	205
Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	210	215	220
Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	225	230	235
Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	245	250	255
Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	260	265	270
Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	275	280	285
Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	290	295	300
Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	305	310	315
Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	325	330	335
Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	340	345	350
Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	355	360	365
Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	370	375	380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
385 390 395 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
405 410 415

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
420 425 430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
435 440 445

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
450 455 460

Leu Ser Pro Gly Lys
465

<210> 21
<211> 1395
<212> DNA
<213> Homo sapiens

<400> 21
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gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtcctt gagactctcc 120
tgtgcagcgt ctggattcac cttcagcaac tatggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcaggcatt tggaatgatg gaattaataa ataccatgca 240
cactccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
caaatgaaca gcccagagagc cgaggacacg gctgtgtatt actgtgagag agcacggtct 360
ttcgactggc tattatttga gttctggggc caggggaaccc tggtcaccgt ctctagtgcc 420
tccaccaagg gcccatcggc cttccccctg gcgccctgct ccaggagcac ctccgagagc 480
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 600
ctctactccc tcagcagcgt ggtgaccgtg cctccagca acttcggcac ccagacctac 660
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tgttgtgtcg agtgcccacc gtgcccagca ccacctgtgg caggaccgtc agtcttcttc 780
ttcccccaa aaccgaagga caccctcatg atctcccga cccctgaggt cacgtgcgtg 840
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gaggtgcata atgccaagac aaagccacgg gaggagcagt tcaacagcac gttccgtgtg 960

gtcagcgtcc tcaccgttgt gcaccaggac tggctgaacg gcaaggagta caagtgcaag 1020
 gtctccaaca aaggcctccc agcccccatc gagaaaacca tctccaaaac caaagggcag 1080
 ccccgagaac cacaggtgta caccctgccc ccatcccggg aggagatgac caagaaccag 1140
 gtcagcctga cctgcctggg caaaggcttc taccacagcg acatcgccgt ggagtgggag 1200
 agcaatgggc agccggagaa caactacaag accacacctc ccatgctgga ctccgacggc 1260
 tccttcttcc tctacagcaa gctcaccgtg gacaagagca ggtggcagca ggggaacgtc 1320
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 ctgtctccgg gtaaa 1395

<210> 22
 <211> 465
 <212> PRT
 <213> Homo sapiens

<400> 22

Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly	1	5	10	15
Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	20	25	30	
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	35	40	45	
Ser	Asn	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	50	55	60	
Glu	Trp	Val	Ala	Gly	Ile	Trp	Asn	Asp	Gly	Ile	Asn	Lys	Tyr	His	Ala	65	70	75	80
His	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	85	90	95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Pro	Arg	Ala	Glu	Asp	Thr	Ala	Val	100	105	110	
Tyr	Tyr	Cys	Ala	Arg	Ala	Arg	Ser	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Phe	115	120	125	
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	130	135	140	
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	145	150	155	160
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	165	170	175	

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 180 185 190
 Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 195 200 205
 Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val
 210 215 220
 Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys
 225 230 235 240
 Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro
 245 250 255
 Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 260 265 270
 Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 275 280 285
 Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 290 295 300
 Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val
 305 310 315 320
 Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu
 325 330 335
 Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys
 340 345 350
 Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 355 360 365
 Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 370 375 380
 Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 385 390 395 400
 Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu
 405 410 415
 Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 420 425 430
 Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 435 440 445
 Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 450 455 460
 Lys
 465

<210> 23
 <211> 1398
 <212> DNA
 <213> homo sapiens

<400> 23
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 tgtgcagcgt ctggattcac cttcagcaac tatggcatgc actgggtccg ccagggtcca 180
 ggcaaggggc tggagtgggt ggcaggcatt tggaatgatg gaattaataa ataccatgca 240
 cactccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
 caaatgaaca gcccagagagc cgaggacacg gctgtgtatt actgtgcgag agcacggtct 360
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 acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
 aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtccctcagga 600
 ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttgggcac gaagacctac 660
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 tatggtcccc catgcccata atgcccagca cctgagttcc tggggggacc atcagtcttc 780
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 gtggaggtgc ataatgccaa gacaaagccg cgggaggagc agttcaacag cacgtaccgt 960
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 tccctgtctc tgggtaaa 1398

<210> 24
 <211> 466

<212> PRT
<213> Homo sapiens

<400> 24

Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly	
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Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	
			20					25					30			
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	
		35					40					45				
Ser	Asn	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	
	50					55					60					
Glu	Trp	Val	Ala	Gly	Ile	Trp	Asn	Asp	Gly	Ile	Asn	Lys	Tyr	His	Ala	
65					70				75						80	
His	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	
				85					90					95		
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Pro	Arg	Ala	Glu	Asp	Thr	Ala	Val	
			100					105					110			
Tyr	Tyr	Cys	Ala	Arg	Ala	Arg	Ser	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Phe	
		115					120					125				
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	
	130					135					140					
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	
145					150					155					160	
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	
			165						170					175		
Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	
			180					185					190			
Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	
		195					200					205				
Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	
	210					215					220					
Asp	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	
225					230					235					240	
Tyr	Gly	Pro	Pro	Cys	Pro	Ser	Cys	Pro	Ala	Pro	Glu	Phe	Glu	Gly	Gly	
				245					250					255		
Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	
			260					265					270			
Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	

275	280	285
Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His		
290	295	300
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg		
305	310	315 320
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys		
	325	330 335
Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu		
	340	345 350
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr		
	355	360 365
Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu		
	370	375 380
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp		
	385	390 395 400
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val		
	405	410 415
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp		
	420	425 430
Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His		
	435	440 445
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu		
	450	455 460

Gly Lys
465

<210> 25
 <211> 1407
 <212> DNA
 <213> Homo Sapiens

<400> 25
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 gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct gagactctcc 120
 tgtgcagtgt ctggattcac cttcagtaac tatggcatgc actgggtccg ccaggctcca 180
 ggcaaggggc tggagtgggt ggcagctata tggaatgatg gagaaaataa acaccatgca 240
 ggctccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgcgag aggacgatat 360
 tttgactggg tattatttga gtattggggc cagggaaacc tggtcaccgt ctctagtgcc 420

tccaccaagg gcccatcggg cttccccctg gcacctctct ccaagagcac ctctgggggc 480
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
 aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtctcagga 600
 ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttggggcac ccagacctac 660
 atctgcaacg tgaatcacaa gcccagcaac accaagggtgg acaagaaagt tgagcccaaa 720
 tcttgtgaca aaactcacac atgcccaccg tgcccagcac ctgaactcct ggggggaccg 780
 tcagtcttcc tcttcccccc aaaacccaag gacacctca tgatctcccg gacctctgag 840
 gtcacatgcg tgggtggtgga cgtgagccac gaagaccctg aggtcaagtt caactggtac 900
 gtggacggcg tggaggtgca taatgccaag acaaagccgc gggaggagca gtacaacagc 960
 acgtaccgtg tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa tggcaaggag 1020
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 gccaaagggc agccccgaga accacagggtg tacaccctgc ccccatcccg ggatgagctg 1140
 accaagaacc aggtcagcct gacctgcctg gtcaaaggct tctatcccag cgacatcgcc 1200
 gtggagtggg agagcaatgg gcagccggag aacaactaca agaccacgcc tcccggtgctg 1260
 gactccgacg gctccttctt cctctatagc aagctcaccg tggacaagag cagggtggcag 1320
 caggggaacg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag 1380
 aagagcctct ccctgtctcc gggtaaa 1407

<210> 26
 <211> 469
 <212> PRT
 <213> Homo sapiens

<400> 26

Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly
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Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln
			20					25					30		
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Val	Ser	Gly	Phe	Thr	Phe
		35				40					45				
Ser	Asn	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
	50					55					60				
Glu	Trp	Val	Ala	Ala	Ile	Trp	Asn	Asp	Gly	Glu	Asn	Lys	His	His	Ala
65					70				75						80

Gly	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	85	90	95
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	100	105	110
Tyr	Tyr	Cys	Ala	Arg	Gly	Arg	Tyr	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Tyr	115	120	125
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	130	135	140
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	145	150	155
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	165	170	175
Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	180	185	190
Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	195	200	205
Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	210	215	220
Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	225	230	235
Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	245	250	255
Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	260	265	270
Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	275	280	285
Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	290	295	300
Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	305	310	315
Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	325	330	335
Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	340	345	350
Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	355	360	365
Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	370	375	380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
385 390 395 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
405 410 415

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
420 425 430

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
435 440 445

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
450 455 460

Leu Ser Pro Gly Lys
465

<210> 27
<211> 1395
<212> DNA
<213> Homo sapiens

<400> 27
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gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct gagactctcc 120
tgtgcagtgt ctggattcac cttcagtaac tatggcatgc actgggtccg ccaggctcca 180
ggcaaggggc tggagtgggt ggcagctata tggaatgatg gagaaaataa acaccatgca 240
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gtgggtggac tgagccacga agaccccag gtccagttca actggtacgt ggacggcgtg 900
gaggtgcata atgccaagac aaagccacgg gaggagcagt tcaacagcac gttccgtgtg 960

gtcagcgtcc tcaccgttgt gcaccaggac tggctgaacg gcaaggagta caagtgcaag 1020
 gtctccaaca aaggcctccc agcccccatc gagaaaaacca tctccaaaac caaagggcag 1080
 ccccgagaac cacaggtgta caccctgccc ccatccccggg aggagatgac caagaaccag 1140
 gtcagcctga cctgcctggg caaaggcttc taccacagcg acatcgccgt ggagtgggag 1200
 agcaatgggc agccggagaa caactacaag accacacctc ccatgctgga ctccgacggc 1260
 tccttcttcc tctacagcaa gctcaccgtg gacaagagca ggtggcagca ggggaacgtc 1320
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 ctgtctccgg gtaaa 1395

<210> 28
 <211> 465
 <212> PRT
 <213> Homo sapiens

<400> 28

Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly	1	5	10	15
Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	20	25	30	
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Val	Ser	Gly	Phe	Thr	Phe	35	40	45	
Ser	Asn	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	50	55	60	
Glu	Trp	Val	Ala	Ala	Ile	Trp	Asn	Asp	Gly	Glu	Asn	Lys	His	His	Ala	65	70	75	80
Gly	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	85	90	95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	100	105	110	
Tyr	Tyr	Cys	Ala	Arg	Gly	Arg	Tyr	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Tyr	115	120	125	
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	130	135	140	
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	145	150	155	160
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	165	170	175	

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 180 185 190
 Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 195 200 205
 Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val
 210 215 220
 Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys
 225 230 235 240
 Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro
 245 250 255
 Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 260 265 270
 Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 275 280 285
 Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 290 295 300
 Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val
 305 310 315 320
 Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu
 325 330 335
 Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys
 340 345 350
 Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 355 360 365
 Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 370 375 380
 Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 385 390 395 400
 Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu
 405 410 415
 Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 420 425 430
 Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 435 440 445
 Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 450 455 460
 Lys
 465

<210> 29
 <211> 1398
 <212> DNA
 <213> Homo sapiens

<400> 29
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 tgtgcagtgt ctggattcac cttcagtaac tatggcatgc actgggtccg ccaggctcca 180
 ggcaaggggc tggagtgggt ggcagctata tggaatgatg gagaaaataa acaccatgca 240
 ggctccgtga ggggccgatt caccatctcc agagacaatt ccaagaacac gctgtatctg 300
 caaatgaaca gcctgagagc cgaggacacg gctgtgtatt actgtgagag aggacgatat 360
 tttgactggg tattatttga gtattggggc cagggaaacc ttgtcaccgt ctctagtgcc 420
 agcaccaagg ggccatccgt cttccccctg gcgccctgct ccaggagcac ctccgagagc 480
 acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 540
 aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtccctcagga 600
 ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttgggcac gaagacctac 660
 acctgcaacg tagatcaciaa gcccagcaac accaagggtg acaagagagt tgagtccaaa 720
 tatgggtcccc catgcccata atgcccagca cctgagttcc tgggggggacc atcagtcttc 780
 ctgttcccc caaaacccaa ggacactctc atgatctccc ggaccctga ggtcacgtgc 840
 gtgggtggtg acgtgagcca ggaagacccc gaggtccagt tcaactggta cgtggatggc 900
 gtggaggtgc ataatgccaa gacaaagccg cgggaggagc agttcaacag cacgtaccgt 960
 gtggtcagcg tcctcaccgt cctgcaccag gactggctga acggcaagga gtacaagtgc 1020
 aaggtctcca acaaaggcct ccgctcctcc atcgagaaaa ccatctccaa agccaaaggg 1080
 cagccccgag agccacaggt gtacaccctg ccccatccc aggaggagat gaccaagaac 1140
 caggtcagcc tgacctgcct ggtcaaaggc ttctacccca gcgacatcgc cgtggagtgg 1200
 gagagcaatg ggcagccgga gaacaactac aagaccacgc ctcccgtgct ggactccgac 1260
 ggctccttct tcctctacag caggctaacc gtgracaaga gcagggtggca ggaggggaat 1320
 gtcttctcat gctccgtgak gcatgaggct ctgcacaacc actacacaca gaagagcctc 1380
 tcctgtctc tgggtaaa 1398

<210> 30
 <211> 466

<212> PRT

<213> Homo sapiens

<400> 30

Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly	
1				5					10					15		
Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	
			20					25					30			
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Val	Ser	Gly	Phe	Thr	Phe	
		35					40					45				
Ser	Asn	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	
	50					55					60					
Glu	Trp	Val	Ala	Ala	Ile	Trp	Asn	Asp	Gly	Glu	Asn	Lys	His	His	Ala	
65					70				75						80	
Gly	Ser	Val	Arg	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	
				85					90					95		
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	
			100					105					110			
Tyr	Tyr	Cys	Ala	Arg	Gly	Arg	Tyr	Phe	Asp	Trp	Leu	Leu	Phe	Glu	Tyr	
		115					120					125				
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	
	130					135					140					
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	
145					150					155					160	
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	
			165						170					175		
Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	
			180					185					190			
Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	
		195					200					205				
Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	
	210					215					220					
Asp	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	
225					230					235					240	
Tyr	Gly	Pro	Pro	Cys	Pro	Ser	Cys	Pro	Ala	Pro	Glu	Phe	Glu	Gly	Gly	
				245					250					255		
Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	
			260					265					270			
Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	

275	280	285
Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His		
290	295	300
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg		
305	310	315 320
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys		
	325	330 335
Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu		
	340	345 350
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr		
	355	360 365
Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu		
	370	375 380
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp		
385	390	395 400
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val		
	405	410 415
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp		
	420	425 430
Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His		
	435	440 445
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu		
	450	455 460

Gly Lys
465

<210> 31
 <211> 1401
 <212> DNA
 <213> Homo Sapiens

<400> 31
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 tgtaaggggtt ctggatacag cttttccttc cactggatcg cctgggtgcg ccagatgccc 180
 gggaaaggcc tggagtggat ggggatcatc catcctggtg cctctgatac cagatacagc 240
 ccgtccttcc aaggccaggt caccatctca gccgacaact ccaacagcgc cacctacctg 300
 cagtggagca gcctgaaggc ctcggacacc gccatgtatt tctgtgagag acaaagggaa 360
 ctcgactact ttgactactg gggccaggga accctgggtca ccgtctctag tgccctccacc 420

aagggcccat cggtcttccc cctggcacc cctccaaga gcacctctgg gggcacagcg 480
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca 540
ggcgccctga ccagcggcgt gcacaccttc ccggtgtcc tacagtcttc aggactctac 600
tccctcagca gcgtggtgac cgtgccctcc agcagcttgg gcacccagac ctacatctgc 660
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt 720
gacaaaactc acacatgccc accgtgccc gacactgaac tcctgggggg accgtcagtc 780
ttcctcttcc cccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca 840
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ggcggtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac 960
cgtgtgggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag 1020
tgcaaggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa 1080
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggatga gctgaccaag 1140
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag 1200
tgaggagagca atgggcagcc ggagaacaac tacaagacca cgctcccgt gctggactcc 1260
gacggctcct tcttctctta tagcaagctc accgtggaca agagcaggtg gcagcagggg 1320
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc 1380
ctctccctgt ctccgggtaa a 1401

<210> 32
<211> 467
<212> PRT
<213> Homo sapiens

<400> 32

Met Gly Ser Thr Ala Ile Leu Ala Leu Leu Leu Ala Val Leu Gln Gly
1 5 10 15
Val Cys Ala Glu Val Gln Leu Met Gln Ser Gly Ala Glu Val Lys Lys
20 25 30
Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
35 40 45
Ser Phe His Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu
50 55 60
Glu Trp Met Gly Ile Ile His Pro Gly Ala Ser Asp Thr Arg Tyr Ser
65 70 75 80

Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Asn Ser Asn Ser
 85 90 95
 Ala Thr Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
 100 105 110
 Tyr Phe Cys Ala Arg Gln Arg Glu Leu Asp Tyr Phe Asp Tyr Trp Gly
 115 120 125
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140
 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
 145 150 155 160
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 195 200 205
 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 210 215 220
 Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
 225 230 235 240
 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 245 250 255
 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 260 265 270
 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 275 280 285
 Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 290 295 300
 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 305 310 315 320
 Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 325 330 335
 Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 340 345 350
 Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 355 360 365
 Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
 370 375 380

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 385 390 395 400
 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 405 410 415
 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 420 425 430
 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 435 440 445
 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 450 455 460

Pro Gly Lys
465

<210> 33
 <211> 1389
 <212> DNA
 <213> Homo sapiens

<400> 33
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 gtgcagctga tgcagtctgg agcagaggtg aaaaagcccg gggagtctct gaagatctcc 120
 tgtaaggggtt ctggatacag cttttccttc cactggatcg cctgggtgcg ccagatgccc 180
 gggaaaggcc tggagtggat ggggatcatc catcctgggtg cctctgatac cagatacagc 240
 ccgtccttcc aaggccaggt caccatctca gccgacaact ccaacagcgc cacctacctg 300
 cagtggagca gcctgaaggc ctcggacacc gccatgtatt tctgtgagag acaaagggaa 360
 ctcgactact ttgactactg gggccaggga accctgggtca ccgtctctag tgccctccacc 420
 aagggcccat cggctcttccc cctggcgccc tgcctccagga gcacctccga gagcacagcg 480
 gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca 540
 ggcgtctga ccagcggcgt gcacaccttc ccagctgtcc tacagtcttc aggactctac 600
 tccctcagca gcgtgggtgac cgtgccctcc agcaacttcg gcacccagac ctacacctgc 660
 aacgtagatc acaagcccag caacaccaag gtggacaaga cagttgagcg caaatgttgt 720
 gtcgagtgcc caccgtgccc agcaccacct gtggcaggac cgtcagttct cctcttcccc 780
 ccaaaaccca aggacaccct catgatctcc cggacccttg aggtcacgtg cgtgggtggtg 840
 gacgtgagcc acgaagacct cgaggtccag ttcaactggc acgtggacgg cgtggaggtg 900
 cataatgcca agacaaagcc acgggaggag cagttcaaca gcacgttccg tgtgggtcagc 960

gtcctcaccg ttgtgcacca ggactggctg aacggcaagg agtacaagtg caaggtctcc 1020
 aacaaaggcc tcccagcccc catcgagaaa accatctcca aaaccaaagg gcagccccga 1080
 gaaccacagg tgtacacctt gcccccatcc cgggaggaga tgaccaagaa ccaggtcagc 1140
 ctgacctgcc tgggtcaaagg cttctacccc agcgacatcg ccgtggagtg ggagagcaat 1200
 gggcagccgg agaacaacta caagaccaca cctcccatgc tggactccga cggctccttc 1260
 ttctctaca gcaagctcac cgtggacaag agcaggtggc agcaggggaa cgtcttctca 1320
 tgctccgtga tgcattgaggc tctgcacaac cactacacgc agaagagcct ctccctgtct 1380
 ccgggtaaa 1389

<210> 34
 <211> 463
 <212> PRT
 <213> Homo sapiens

<400> 34

Met Gly Ser Thr Ala Ile Leu Ala Leu Leu Leu Ala Val Leu Gln Gly
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 Val Cys Ala Glu Val Gln Leu Met Gln Ser Gly Ala Glu Val Lys Lys
 20 25 30
 Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
 35 40 45
 Ser Phe His Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Met Gly Ile Ile His Pro Gly Ala Ser Asp Thr Arg Tyr Ser
 65 70 75 80
 Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Asn Ser Asn Ser
 85 90 95
 Ala Thr Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
 100 105 110
 Tyr Phe Cys Ala Arg Gln Arg Glu Leu Asp Tyr Phe Asp Tyr Trp Gly
 115 120 125
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
 145 150 155 160
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 195 200 205
 Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His
 210 215 220
 Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys
 225 230 235 240
 Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val
 245 250 255
 Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 260 265 270
 Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
 275 280 285
 Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
 290 295 300
 Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
 305 310 315 320
 Val Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
 325 330 335
 Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile
 340 345 350
 Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
 355 360 365
 Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
 370 375 380
 Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
 385 390 395 400
 Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser
 405 410 415
 Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
 420 425 430
 Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 435 440 445
 His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 450 455 460

<210> 35
 <211> 1392
 <212> DNA

<213> Homo sapiens

<400> 35

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tgtaagggtt ctggatacag cttttccttc cactggatcg cctgggtgcg ccagatgccc      180
gggaaaggcc tggagtggat ggggatcatc catcctgggtg cctctgatac cagatacagc      240
ccgtccttcc aaggccaggt caccatctca gccgacaact ccaacagcgc cacctacctg      300
cagtggagca gcctgaaggc ctcggaacac gccatgtatt tctgtgcgag acaaagggaa      360
ctcgactact ttgactactg gggccaggga accctgggtc ccgtctctag tgccagcacc      420
aaggggcat ccgtcttccc cctggcgccc tgctccagga gcacctccga gaggcacagcc      480
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca      540
ggcgccctga ccagcggcgt gcacaccttc ccggtgtgcc tacagtcctc aggactctac      600
tcctcagca gcgtggtgac cgtgccctcc agcagcttgg gcacgaagac ctacacctgc      660
aacgtagatc acaagcccag caacaccaag gtggacaaga gagttgagtc caaatatggt      720
cccccattgcc catcatgccc agcacctgag ttcttggggg gaccatcagt cttcctgttc      780
ccccaaaaac ccaaggacac tctcatgatc tcccggaccc ctgagggtcac gtgcgtgggtg      840
gtggacgtga gccaggaaga ccccgaggtc cagttcaact ggtacgtgga tggcgtggag      900
gtgcataatg ccaagacaaa gccgcgggag gaggcagttc acagcacgta ccgtgtggtc      960
agcgtcctca ccgtcctgca ccaggactgg ctgaacggca aggagtacaa gtgcaaggtc     1020
tccaacaaag gcctcccgtc ctccatcgag aaaaccatct ccaaagccaa agggcagccc     1080
cgagagccac aggtgtacac cctgccccca tcccaggagg agatgaccaa gaaccaggtc     1140
agcctgacct gcctgggtcaa aggtttctac cccagcgaca tcgccgtgga gtgggagagc     1200
aatgggcagc cggagaacaa ctacaagacc acgcctcccg tgctggactc cgacggctcc     1260
ttcttctct acagcaggct aaccgtgrac aagagcaggt ggcaggaggg gaatgtcttc     1320
tcatgtccg tgakgcatga ggctctgcac aaccactaca cacagaagag cctctccctg     1380
tctctgggta aa                                             1392
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<210> 36

<211> 464

<212> PRT

<213> Homo sapiens

<400> 36

Met Gly Ser Thr Ala Ile Leu Ala Leu Leu Leu Ala Val Leu Gln Gly
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Val Cys Ala Glu Val Gln Leu Met Gln Ser Gly Ala Glu Val Lys Lys
20 25 30
Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe
35 40 45
Ser Phe His Trp Ile Ala Trp Val Arg Gln Met Pro Gly Lys Gly Leu
50 55 60
Glu Trp Met Gly Ile Ile His Pro Gly Ala Ser Asp Thr Arg Tyr Ser
65 70 75 80
Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Asn Ser Asn Ser
85 90 95
Ala Thr Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met
100 105 110
Tyr Phe Cys Ala Arg Gln Arg Glu Leu Asp Tyr Phe Asp Tyr Trp Gly
115 120 125
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
130 135 140
Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
145 150 155 160
Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
165 170 175
Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
180 185 190
Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
195 200 205
Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His
210 215 220
Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly
225 230 235 240
Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe Glu Gly Gly Pro Ser
245 250 255
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
260 265 270
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro
275 280 285
Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala

290	295	300
Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val		
305	310	315 320
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr		
	325	330 335
Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr		
	340	345 350
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu		
	355	360 365
Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys		
	370	375 380
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser		
385	390	395 400
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp		
	405	410 415
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser		
	420	425 430
Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala		
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Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys		
450	455	460

<210> 37
 <211> 705
 <212> DNA
 <213> Homo Sapiens

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ctctcctgca gggccagtca gagtgttagc agctacttag cctggtacca acagaaacct	180
ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc	240
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct	300
gaagattttg cagtttatta ctgtcagcag cgtagcaact ggctccgct cactttcggc	360
ggagggacca aggtggagat caaacgaact gtggctgcac catctgtctt catcttcccg	420
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgctgct gaataacttc	480
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc	540
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg	600

acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 660
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt 705

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<210> 38
<211> 235
<212> PRT
<213> Homo sapiens
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<400> 38

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Asp	Thr	Thr	Gly 20	Glu	Ile	Val	Leu	Thr 25	Gln	Ser	Pro	Ala	Thr 30	Leu	Ser
Leu	Ser	Pro 35	Gly	Glu	Arg	Ala	Thr 40	Leu	Ser	Cys	Arg	Ala 45	Ser	Gln	Ser
Val 50	Ser	Ser	Tyr	Leu	Ala	Trp 55	Tyr	Gln	Gln	Lys	Pro 60	Gly	Gln	Ala	Pro
Arg 65	Leu	Leu	Ile	Tyr	Asp 70	Ala	Ser	Asn	Arg	Ala 75	Thr	Gly	Ile	Pro	Ala 80
Arg	Phe	Ser	Gly	Ser 85	Gly	Ser	Gly	Thr	Asp 90	Phe	Thr	Leu	Thr	Ile 95	Ser
Ser	Leu	Glu	Pro 100	Glu	Asp	Phe	Ala	Val 105	Tyr	Tyr	Cys	Gln	Gln	Arg	Ser
Asn	Trp	Pro 115	Pro	Leu	Thr	Phe	Gly 120	Gly	Gly	Thr	Lys	Val 125	Glu	Ile	Lys
Arg 130	Thr	Val	Ala	Ala	Pro	Ser 135	Val	Phe	Ile	Phe	Pro 140	Pro	Ser	Asp	Glu
Gln 145	Leu	Lys	Ser	Gly	Thr 150	Ala	Ser	Val	Val	Cys 155	Leu	Leu	Asn	Asn	Phe 160
Tyr	Pro	Arg	Glu	Ala 165	Lys	Val	Gln	Trp	Lys 170	Val	Asp	Asn	Ala	Leu 175	Gln
Ser	Gly	Asn	Ser 180	Gln	Glu	Ser	Val	Thr 185	Glu	Gln	Asp	Ser	Lys	Asp 190	Ser
Thr	Tyr	Ser 195	Leu	Ser	Ser	Thr	Leu 200	Thr	Leu	Ser	Lys	Ala 205	Asp	Tyr	Glu
Lys 210	His	Lys	Val	Tyr	Ala	Cys 215	Glu	Val	Thr	His	Gln 220	Gly	Leu	Ser	Ser
Pro 225	Val	Thr	Lys	Ser	Phe 230	Asn	Arg	Gly	Glu	Cys 235					

<210> 39
 <211> 699
 <212> DNA
 <213> Homo Sapiens

<400> 39
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 acctgccggg ccagtcagag cattggtagt agcttacact ggtaccagca gaaaccagat 180
 cagtctccaa agctcctcat caagtatgct tcccagtcct tctcaggggt cccctcgagg 240
 ttcaagtggca gtggatctgg gacagatttc accctcacca tcaatagcct ggaagctgaa 300
 gatgctgcag cgtattactg tcatcagagt agtagtttac ctctcacttt cggcggaggg 360
 accaaggtgg agatcaaacg aactgtggct gcaccatctg tcttcattctt cccgccatct 420
 gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 480
 agagaggcca aagtacagtg gaagggtgat aacgccctcc aatcgggtaa ctcccaggag 540
 agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600
 agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 660
 agctcgcccg tcacaaagag cttcaacagg ggagagtgt 699

<210> 40
 <211> 233
 <212> PRT
 <213> Homo sapiens

<400> 40
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 20 25 30
 Thr Pro Lys Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile
 35 40 45
 Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys
 50 55 60
 Leu Leu Ile Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg
 65 70 75 80
 Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser
 85 90 95

Leu Glu Ala Glu Asp Ala Ala Ala Tyr Tyr Cys His Gln Ser Ser Ser
 100 105 110

Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr
 115 120 125

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
 130 135 140

Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro
 145 150 155 160

Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
 165 170 175

Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
 180 185 190

Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
 195 200 205

Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
 210 215 220

Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225 230

<210> 41
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 41

Leu Ser Asp Ile Ala
 1 5

<210> 42
 <211> 4
 <212> PRT
 <213> Homo sapiens

<400> 42

Val Ile Asp Glu
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<210> 43
 <211> 4
 <212> PRT
 <213> Homo sapiens

<400> 43

Thr Cys Phe Ala
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<210> 44
 <211> 24
 <212> DNA
 <213> Artificial

 <220>
 <223> oligonucleotide primer for PCR

 <220>
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 <223> n is a, c, t, or g

 <400> 44
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 <210> 45
 <211> 26
 <212> DNA
 <213> artificial

 <220>
 <223> oligonucleotide primer for PCR

 <400> 45
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 <210> 46
 <211> 26
 <212> DNA
 <213> artificial

 <220>
 <223> oligonucleotide primer for PCR

 <400> 46
 ggacactgac atggactgaa ggagta 26

 <210> 47
 <211> 46
 <212> DNA
 <213> artificial

 <220>
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 <400> 47
 cagcagaagc ttctagacca ccatgtcgcc atcacaactc attggg 46

 <210> 48
 <211> 34
 <212> DNA

<213> artificial

<220>

<223> oligonucleotide primer for PCR

<400> 48
cttgtcgact caacactctc ccctgttgaa gctc 34

<210> 49
<211> 8
<212> PRT
<213> artificial

<220>

<223> amino acid sequence encoded by 5' anti-IL-1R1 15C4 kappa primer

<400> 49

Met Ser Pro Ser Gln Leu Ile Gly
1 5

<210> 50
<211> 7
<212> PRT
<213> artificial

<220>

<223> amino acid sequence encoded by 3' anti-IL-1R1 15C4 kappa primer

<400> 50

Cys Glu Gly Arg Asn Phe Ser
1 5

<210> 51
<211> 1409
<212> DNA
<213> Homo sapiens

<400> 51
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tgacactctc ctgtgcagcc tcgggattca ctttcagaac ctatggcatg gcctgggtcc 180
gccaggcccc aacgaagggt ctggagtggg tctcatcaat tactgctagt ggtggtacca 240
cctactatcg agactccgtg aagggccgct tcactatttt tagggataat gcaaaaagta 300
ccctatacct gcagatggac agtccgaggt ctgaggacac ggccacttat ttctgtacat 360
caatttcgga atactggggc cacggagtca tggtcaccgt ctctagtgcc tccaccaagg 420
gcccacggt cttccccctg gcaccctcct ccaagagcac ctctgggggc acagcggtccc 480

tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg aactcaggcg	540
ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtctcagga ctctactccc	600
tcagcagcgt ggtgaccgtg ccctccagca gcttgggcac ccagacctac atctgcaacg	660
tgaatcaciaa gcccagcaac accaaggtgg acaagaaagt tgagcccaaa tcttgtgaca	720
aaactcacac atgcccaccg tgcccagcac ctgaactcct ggggggaccg tcagtcttcc	780
tcttcccccc aaaacccaag gacaccctca tgatctccccg gaccctgag gtcacatgcg	840
tgggtggtgga cgtgagccac gaagaccctg aggtcaagtt caactggtac gtggacggcg	900
tggaggtgca taatgccaaag acaaagccgc gggaggagca gtacaacagc acgtaccgtg	960
tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa tggcaaggag tacaagtgca	1020
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agccccgaga accacaggtg tacaccctgc ccccatccccg ggatgagctg accaagaacc	1140
aggtcagcct gacctgcctg gtcaaaggct tctatcccag cgacatcgcc gtggagtggg	1200
agagcaatgg gcagccggag aacaactaca agaccacgcc tcccgtgctg gactccgacg	1260
gctccttctt cctctatagc aagctcaccg tggacaagag caggtggcag caggggaacg	1320
tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacgcag aagagcctct	1380
ccctgtctcc gggtaaatga taagtcgac	1409

<210> 52
 <211> 19
 <212> DNA
 <213> artificial

<220>
 <223> oligonucleotide primer for PCR

<400> 52	
tgaggacgct gaccacacg	19

<210> 53
 <211> 44
 <212> DNA
 <213> artificial

<220>
 <223> oligonucleotide primer for PCR

<400> 53	
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<210> 54
 <211> 32
 <212> DNA
 <213> artificial

<220>
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<400> 54
 gtggaggcac tagagacggt gaccaggggtt cc 32

<210> 55
 <211> 7
 <212> PRT
 <213> artificial

<220>
 <223> amino acid sequence encoded by 5' anti-IL-1R1 15C4 heavy chain prime

<400> 55
 Met Gly Ser Thr Ala Ile Leu
 1 5

<210> 56
 <211> 11
 <212> PRT
 <213> artificial

<220>
 <223> amino acid sequence encoded by 3' anti-IL-1R1 15C4 heavy chain prime

<400> 56
 Thr Ser Ala Ser Ser Val Thr Val Leu Thr Gly
 1 5 10

<210> 57
 <211> 1415
 <212> DNA
 <213> homo sapiens

<400> 57
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 ggggggtccct gagactctcc tgtgcaggct ctggattcac cttcagtggc catgctttgc 180
 actggggttcg ccaggctcca ggaaaagggtc tggagtgggt atcaggtatt ggtactcatg 240
 gtgggacata ctatgcagac tccgtgaagg gccgattcac catctccaga gacaatgcc 300
 agaactcctt gtttcttcaa atgaacagcc tgagcgccga ggacatggct gtgtattact 360

gtacaagaag aaactgggga caatttgact actggggcca gggaaccctg gtcaccgtct	420
ctagtgcctc caccaagggc ccatcggtct tccccctggc gccctgctcc aggagcacct	480
ccgagagcac agcggccctg ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg	540
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acggcgtgga ggtgcataat gccaaagaca agccacggga ggagcagttc aacagcacgt	960
tccgtgtggg cagcgtcctc accgttgtgc accaggactg gctgaacggc aaggagtaca	1020
agtgcaaggt ctccaacaaa ggccctcccag ccccatcga gaaaaccatc tccaaaacca	1080
aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag gagatgacca	1140
agaaccaggt cagcctgacc tgccctggta aaggcttcta cccagcgcac atcgccgtgg	1200
agtgggagag caatgggcag ccggagaaca actacaagac cacacctccc atgctggact	1260
ccgacggctc cttcttcctc tacagcaagc tcaccgtgga caagagcagg tggcagcagg	1320
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gcctctccct gtctccgggt aaatgataag tcgac	1415

<210> 58
 <211> 1418
 <212> DNA
 <213> Homo sapiens

<400> 58	
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gggggtccct gagactctcc tgtgcaggct ctggattcac cttcagtggc catgctttgc	180
actgggttcg ccaggctcca ggaaaaggtc tggagtgggt atcaggtatt ggtactcatg	240
gtgggacata ctatgcagac tccgtgaagg gccgattcac catctccaga gacaatgcc	300
agaactcctt gtttcttcaa atgaacagcc tgagcgccga ggacatggct gtgtattact	360
gtacaagaag aaactgggga caatttgact actggggcca gggaaccctg gtcaccgtct	420

ctagtgccag caccaagggg ccatccgtct tccccctggc gccctgctcc aggagcacct 480
 ccgagagcac agccgccctg ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg 540
 tgtcgtggaa ctcaggcgcc ctgaccagcg gcgtgcacac cttcccggct gtcctacagt 600
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 agacctacac ctgcaacgta gatcacaagc ccagcaacac caagggtggac aagagagttg 720
 agtccaaata tgggtcccca tgcccatcat gcccagcacc tgagttcctg gggggaccat 780
 cagtcttctt gttcccccca aaacccaagg acactctcat gatctcccgg acccctgagg 840
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 cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaac ggcaaggagt 1020
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 tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct cccgtgctgg 1260
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 aggggaatgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac tacacacaga 1380
 agagcctctc cctgtctctg ggtaaataatgat aagtcgac 1418

<210> 59
 <211> 485
 <212> PRT
 <213> Homo sapiens

<400> 59

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			20					25					30	Gly
Lys	Trp	Thr	Asn	Asp	Leu	Gly	Ser	Asn	Met	Thr	Ile	Gly	Ala	Val
		35					40					45		Asn
Ser	Lys	Gly	Glu	Phe	Thr	Gly	Thr	Tyr	Thr	Thr	Ala	Val	Thr	Ala
	50					55					60			Thr
Ser	Asn	Glu	Ile	Lys	Glu	Ser	Pro	Leu	His	Gly	Thr	Gln	Asn	Thr
65					70					75				80

Asn	Lys	Arg	Thr	Gln	Pro	Thr	Phe	Gly	Phe	Thr	Val	Asn	Trp	Lys	Phe	
				85					90					95		
Ser	Glu	Ser	Thr	Thr	Val	Phe	Thr	Gly	Gln	Cys	Phe	Ile	Asp	Arg	Asn	
			100					105					110			
Gly	Lys	Glu	Val	Leu	Lys	Thr	Met	Trp	Leu	Leu	Arg	Ser	Ser	Val	Asn	
		115					120					125				
Asp	Ile	Gly	Asp	Asp	Trp	Lys	Ala	Thr	Arg	Val	Gly	Ile	Asn	Ile	Phe	
	130					135					140					
Thr	Arg	Leu	Arg	Thr	Gln	Lys	Glu	Gln	Leu	Leu	Ala	Ser	Leu	Leu	Glu	
145					150					155					160	
Ala	Asp	Lys	Cys	Lys	Glu	Arg	Glu	Glu	Lys	Ile	Ile	Leu	Val	Ser	Ser	
			165						170					175		
Ala	Asn	Glu	Ile	Asp	Val	Arg	Pro	Cys	Pro	Leu	Asn	Pro	Asn	Glu	His	
		180						185					190			
Lys	Gly	Thr	Ile	Thr	Trp	Tyr	Lys	Asp	Asp	Ser	Lys	Thr	Pro	Val	Ser	
	195					200						205				
Thr	Glu	Gln	Ala	Ser	Arg	Ile	His	Gln	His	Lys	Glu	Lys	Leu	Trp	Phe	
210						215					220					
Val	Pro	Ala	Met	Val	Glu	Asp	Ser	Gly	His	Tyr	Tyr	Cys	Val	Val	Arg	
225				230						235					240	
Asn	Ser	Ser	Tyr	Cys	Leu	Arg	Ile	Lys	Ile	Ser	Ala	Lys	Phe	Val	Glu	
			245						250					255		
Asn	Glu	Pro	Asn	Leu	Cys	Tyr	Asn	Ala	Gln	Ala	Ile	Phe	Lys	Gln	Lys	
		260						265					270			
Leu	Pro	Val	Ala	Gly	Asp	Gly	Gly	Leu	Val	Cys	Pro	Tyr	Met	Glu	Phe	
		275					280					285				
Phe	Lys	Asn	Glu	Asn	Asn	Glu	Leu	Pro	Lys	Leu	Gln	Trp	Tyr	Lys	Asp	
	290					295					300					
Cys	Lys	Pro	Leu	Leu	Leu	Asp	Asn	Ile	His	Phe	Ser	Gly	Val	Lys	Asp	
305				310						315				320		
Arg	Leu	Ile	Val	Met	Asn	Val	Ala	Glu	Lys	His	Arg	Gly	Asn	Tyr	Thr	
			325						330					335		
Cys	His	Ala	Ser	Tyr	Thr	Tyr	Leu	Gly	Lys	Gln	Tyr	Pro	Ile	Thr	Arg	
		340						345					350			
Val	Ile	Glu	Phe	Ile	Thr	Leu	Glu	Glu	Asn	Lys	Pro	Thr	Arg	Pro	Val	
	355						360					365				
Ile	Val	Ser	Pro	Ala	Asn	Glu	Thr	Met	Glu	Val	Asp	Leu	Gly	Ser	Gln	
	370					375					380					

Ile Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp Ile Ala Tyr
 385 390 395 400
 Trp Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro Val Leu Gly
 405 410 415
 Glu Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg Arg Ser Thr
 420 425 430
 Leu Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg Phe Tyr Lys
 435 440 445
 His Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile Asp Ala Ala
 450 455 460
 Tyr Ile Gln Leu Ile Tyr Pro Val Thr Asn Phe Gln Lys Asp Tyr Lys
 465 470 475 480
 Asp Asp Asp Asp Lys
 485

<210> 60
 <211> 485
 <212> PRT
 <213> artificial

<220>
 <223> avidin-cynomolgus IL-1R1-FLAG chimeric protein

<400> 60

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 Lys Trp Thr Asn Asp Leu Gly Ser Asn Met Thr Ile Gly Ala Val Asn
 35 40 45
 Ser Lys Gly Glu Phe Thr Gly Thr Tyr Thr Thr Ala Val Thr Ala Thr
 50 55 60
 Ser Asn Glu Ile Lys Glu Ser Pro Leu His Gly Thr Gln Asn Thr Ile
 65 70 75 80
 Asn Lys Arg Thr Gln Pro Thr Phe Gly Phe Thr Val Asn Trp Lys Phe
 85 90 95
 Ser Glu Ser Thr Thr Val Phe Thr Gly Gln Cys Phe Ile Asp Arg Asn
 100 105 110
 Gly Lys Glu Val Leu Lys Thr Met Trp Leu Leu Arg Ser Ser Val Asn
 115 120 125
 Asp Ile Gly Asp Asp Trp Lys Ala Thr Arg Val Gly Ile Asn Ile Phe

435 440 445
 His Pro Phe Thr Cys Leu Ala Arg Asn Thr His Gly Met Asp Ala Ala
 450 455 460
 Tyr Val Gln Leu Ile Tyr Pro Val Thr Lys Phe Gln Lys Asp Tyr Lys
 465 470 475 480
 Asp Asp Asp Asp Lys
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<210> 61
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 61

Asn Tyr Gly Met His
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<210> 62
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 62

Thr Phe Ser Asn Tyr Gly Met His
 1 5

<210> 63
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 63

Phe His Trp Ile Ala
 1 5

<210> 64
 <211> 17
 <212> PRT
 <213> Homo sapiens

<400> 64

Gly Ile Trp Asn Asp Gly Ile Asn Lys Tyr His Ala His Ser Val Arg
 1 5 10 15

Gly

<210> 65
 <211> 17
 <212> PRT

<213> Homo sapiens

<400> 65

Ala Ile Trp Asn Asp Gly Glu Asn Lys His His Ala Gly Ser Val Arg
1 5 10 15

Gly

<210> 66

<211> 17

<212> PRT

<213> Homo sapiens

<400> 66

Ile Ile His Pro Gly Ala Ser Asp Thr Arg Tyr Ser Pro Ser Phe Gln
1 5 10 15

Gly

<210> 67

<211> 11

<212> PRT

<213> Homo sapiens

<400> 67

Ala Arg Ser Phe Asp Trp Leu Leu Phe Glu Phe
1 5 10

<210> 68

<211> 11

<212> PRT

<213> Homo sapiens

<400> 68

Gly Arg Tyr Phe Asp Trp Leu Leu Phe Glu Tyr
1 5 10

<210> 69

<211> 9

<212> PRT

<213> Homo sapiens

<400> 69

Gln Arg Glu Leu Asp Tyr Phe Asp Tyr
1 5

<210> 70

<211> 11

<212> PRT

<213> Homo sapiens

<400> 70

Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
1 5 10

<210> 71

<211> 11

<212> PRT

<213> Homo sapiens

<400> 71

Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His
1 5 10

<210> 72

<211> 7

<212> PRT

<213> Homo sapiens

<400> 72

Asp Ala Ser Asn Arg Ala Thr
1 5

<210> 73

<211> 7

<212> PRT

<213> Homo sapiens

<400> 73

Tyr Ala Ser Gln Ser Phe Ser
1 5

<210> 74

<211> 10

<212> PRT

<213> Homo sapiens

<400> 74

Gln Gln Arg Ser Asn Trp Pro Pro Leu Thr
1 5 10

<210> 75

<211> 9

<212> PRT

<213> Homo sapiens

<400> 75

His Gln Ser Ser Ser Leu Pro Leu Thr
1 5

<210> 76

<211> 111
 <212> PRT
 <213> Homo sapiens

<400> 76

Pro	Val	Ile	Val	Ser	Pro	Ala	Asn	Glu	Thr	Met	Glu	Val	Asp	Leu	Gly
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Ser	Gln	Ile	Gln	Leu	Ile	Cys	Asn	Val	Thr	Gly	Gln	Leu	Ser	Asp	Ile
		20					25						30		
Ala	Tyr	Trp	Lys	Trp	Asn	Gly	Ser	Val	Ile	Asp	Glu	Asp	Asp	Pro	Val
		35					40						45		
Leu	Gly	Glu	Asp	Tyr	Tyr	Ser	Val	Glu	Asn	Pro	Ala	Asn	Lys	Arg	Arg
	50					55					60				
Ser	Thr	Leu	Ile	Thr	Val	Leu	Asn	Ile	Ser	Glu	Ile	Glu	Ser	Arg	Phe
65					70					75					80
Tyr	Lys	His	Pro	Phe	Thr	Cys	Phe	Ala	Lys	Asn	Thr	His	Gly	Ile	Asp
				85						90				95	
Ala	Ala	Tyr	Ile	Gln	Leu	Ile	Tyr	Pro	Val	Thr	Asn	Phe	Gln	Lys	
			100					105					110		

<210> 77
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 <212> DNA
 <213> Homo sapiens

<400> 77

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ttgatctgta	atgtcaccgg	ccagttgagt	gacattgctt	actggaagtg	gaatgggtca	120
gtaattgatg	aagatgaccc	agtgctaggg	gaagactatt	acagtgtgga	aaatcctgca	180
aacaaaagaa	ggagtaccct	catcacagtg	cttaatatat	cggaaattga	aagtagattt	240
tataaacatc	catttacctg	ttttgccaag	aatacacatg	gtatagatgc	agcatatatc	300
cagttaatat	atccagtcac	taatttccag	aagcacatga	ttggtatatg		350

<210> 78
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 <212> DNA
 <213> Rattus sp.

<400> 78

cctgtgatta	tgagcccacg	gaatgagacg	atggaagctg	acccaggatc	cacgatacaa	60
ctgatctgca	acgtcacggg	ccagttcacc	gaccttgtct	actggaagtg	gaatgggtcg	120
gaaattgaat	gggacgatcc	aatcctagcc	gaagactatc	agtttttgga	acacccttca	180

gccaaaagaa agtacactct cattacaaca cttaacgttt cagaggtcaa aagccagttt 240
 tatcgctatc cgttcatctg cttcgttaag aacactcata ttctggagac tgcacacgta 300
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<210> 79
 <211> 111
 <212> PRT
 <213> Rattus sp.

<400> 79

Pro	Val	Ile	Met	Ser	Pro	Arg	Asn	Glu	Thr	Met	Glu	Ala	Asp	Pro	Gly
1				5					10					15	
Ser	Thr	Ile	Gln	Leu	Ile	Cys	Asn	Val	Thr	Gly	Gln	Phe	Thr	Asp	Leu
		20						25					30		
Val	Tyr	Trp	Lys	Trp	Asn	Gly	Ser	Glu	Ile	Glu	Trp	Asp	Asp	Pro	Ile
	35						40					45			
Leu	Ala	Glu	Asp	Tyr	Gln	Phe	Leu	Glu	His	Pro	Ser	Ala	Lys	Arg	Lys
	50					55					60				
Tyr	Thr	Leu	Ile	Thr	Thr	Leu	Asn	Val	Ser	Glu	Val	Lys	Ser	Gln	Phe
65				70						75					80
Tyr	Arg	Tyr	Pro	Phe	Ile	Cys	Phe	Val	Lys	Asn	Thr	His	Ile	Leu	Glu
			85						90					95	
Thr	Ala	His	Val	Arg	Leu	Val	Tyr	Pro	Val	Pro	Asp	Phe	Lys	Lys	
		100						105					110		